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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,480	12/14/2001	Antonio Filipe Falcao Montalvao	D-20,920	1026
27182	7590	03/18/2004		
PRAXAIR, INC. LAW DEPARTMENT - M1 557 39 OLD RIDGEBURY ROAD DANBURY, CT 06810-5113			EXAMINER REIFSNYDER, DAVID A	
			ART UNIT 1723	PAPER NUMBER

DATE MAILED: 03/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/014,480	Applicant(s) MONTALVAO ET AL.	
	Examiner David A Reifsnyder	Art Unit 1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Title

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: ---Cavitation Method for Deaeration.---

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng '916 in view of Cheng '406.

Regarding claims 1-4; Cheng' 916 discloses a method for stripping a stream of liquid that contains dissolved volatiles, comprising; providing a stream of said liquid containing dissolved volatiles into an inlet (6) downstream of a venturi-mixer (7); injecting nitrogen stripping gas through a line (17) which is in fluid communication with the inlet (6) to create a gas-liquid mixture; flowing said gas-liquid mixture through an inlet into the venturi-mixer (7), the venturi-mixer (7) having a converging pressure reduction and velocity increasing portion (9), a throat section (10), a diverging velocity decreasing section (11) and an outlet, wherein the nitrogen stripping gas and the dissolved volatiles completely separates from the gas-liquid mixture to create a stripped de-gassed liquid and gas in the converging pressure reduction and velocity increasing portion (9) of the venturi-mixer (7) (col. 4, lines 50-67); feeding said stripped de-gassed liquid and gas to a separatory vessel (1); recovering said stripped de-gassed liquid separately from said gas in the separator vessel (1) before the gas redissolves in the stripped degassed liquid; and venting the gas out of the separator vessel (1) through elements (20, 21, 23, 24 and 26).

Regarding claim 1-5; Cheng '916 discloses a stripping method as discussed above but fails to disclose that his stripping method using a venturi-mixer stripping apparatus can be used to strip dissolved gases from a liquid that contains those dissolved gases. Regarding claims 1-5; Cheng '406 teaches on column 1, lines 14 to 15 that it is known to use a venturi-mixer stripping apparatus to strip dissolved gases from a liquid containing those dissolved gases. It is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention to have for

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Cheng '916 to have stripped dissolved gases from a liquid containing those dissolved gases with his venturi-mixer stripping apparatus, since Cheng '406 teaches that it is known to strip dissolved gases from a liquid containing those dissolved gases using a venturi-mixer stripping apparatus.

Response to Arguments

Applicant's arguments filed December 22, 2003 have been fully considered but they are not persuasive.

The applicants argue on the first paragraph of page 4 of the remarks that the piece of disclosure that the Examiner draws from Cheng '408 (i.e. Cheng '406) is only a generation, not necessary applicable to the apparatus taught by Cheng '916 and not necessary applicable to the method claimed by the applicants. Cheng '916 discloses a system including a venturi-mixer while Cheng '406 discloses a venturi-mixer which is extremely similar if not the same as the venturi-mixer as taught by Cheng '916. Therefore, Cheng '406 is clearly applicable to the apparatus of Cheng '916. Cheng '406 teaches that venturi-mixer's are used as venturi-mixer stripping apparatus's to strip dissolved gases from a liquid containing those dissolved gases. Therefore, Cheng '406 is clearly applicable to the method claimed by the applicants.

The applicants argue on the second paragraph of page 4 of the remarks that Cheng '408 is predominately concerned with enhancing dispersion of gas, by creating many fine bubbles which is the opposite of the evolution and separation of gases from liquids that the applicants' addresses. This is not persuasive because it is not

understood as to how enhancing the dispersion of gas in a liquid and then stripping (i.e. separating) that gas from the liquid as taught by Cheng' 406 is opposite from the evolution and separation of gases.

The applicants also argue on the second paragraph of page 4 of the remarks that it is known in the art through the Serfass reference that the formation of fine bubbles of gas interferes with the separation of gases. Be that as it may Cheng' 406 still teaches separation of gases after forming fine bubbles. Furthermore, Serfass was not used in the above 35 U.S.C. 103(a) obviousness rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

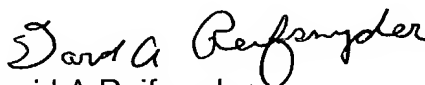
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A Reifsnyder whose telephone number is (571) 271-1145. The examiner can normally be reached on M-F 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda M Walker can be reached on (571) 272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


David A Reifsnyder
Primary Examiner
Art Unit 1723

DAR